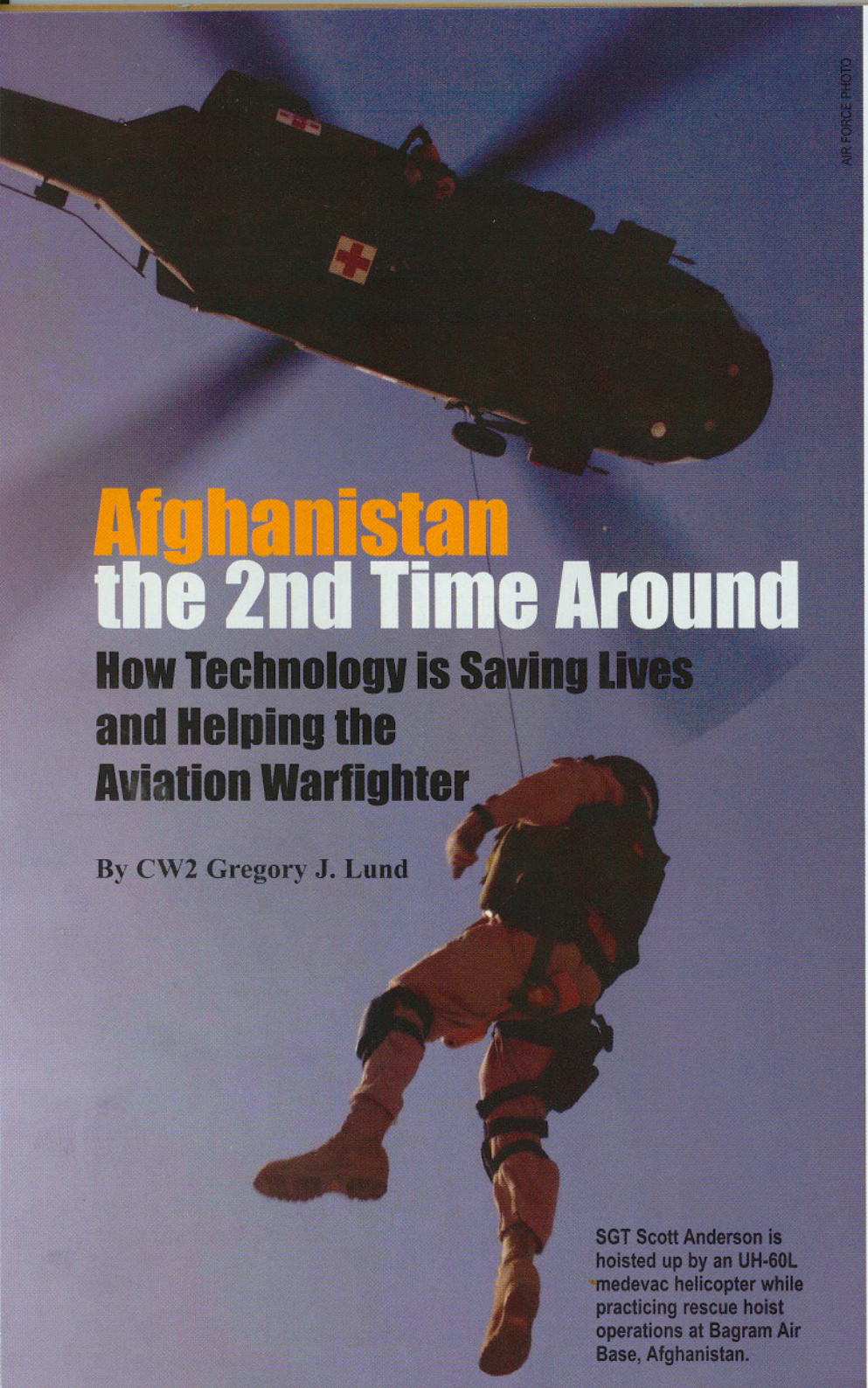

AIR FORCE PHOTO

Afghanistan the 2nd Time Around

How Technology is Saving Lives and Helping the Aviation Warfighter

By CW2 Gregory J. Lund

SGT Scott Anderson is hoisted up by an UH-60L medevac helicopter while practicing rescue hoist operations at Bagram Air Base, Afghanistan.

PHOTO BY MAJ MATT BRADY

A photo of the author, CW2 Greg Lund, flying during his deployment to Afghanistan.

In March 2006, the 1042nd Medical Company (Air Ambulance) returned from Bagram, Afghanistan.

A medevac outfit flying the UH-60L, the 1042nd is a National Guard unit based in Salem, Ore.

This was our second tour, Bagram being our primary base, but we also spent time at forward operating bases in Jalalabad and Khowst (also known as "Salerno").

I transitioned to the 60L Medevac mission when I entered the Guard after leaving active duty.

Before that, I flew the AH-64 for eight years, including commanding Co. B, 3rd Bn., 227th Avn. Regt., during Operation Desert Storm.

I can say from my own experience that the medevac mission is a very different one — you're not shooting at stuff, obviously, and I find it a much more rewarding mission.

Our first tour in Bagram ended in June 2003, and when we returned in July 2005 for our second tour, I was impressed with the changes Bagram had gone through in our short time away.

The first time I was in Afghanistan, the country was devastated; the buildings were largely reduced to rubble, and electric lighting was minimal.

The second time around, the facilities at Bagram air base in particular were vastly improved, but the city in general had grown and developed.

One of the first things that struck me was the pollution — a sure sign of the return of "civilization."

Bagram sits in a bowl, surrounded by rising terrain that traps the pollution until the seasonal winds scour it clean again.

When the pollution built up it was not unusual to have visibility limited to a half mile in smog.

On the other hand, once the wind picked up and cleaned out the smog, the blowing sand created near brown-out conditions, so limited visibility became a common occurrence and an additional challenge to our missions.

Another change we experienced between tours was the inclusion of new technologies on board our helicopters.

PHOTOS BY GREGORY LUND

The AN/AAQ-22 forward looking infrared (FLIR) system, mounted up under the nose of the aircraft cockpit, is helping aircrews fly and locate people under difficult circumstances and high risk situations.

Three of these that had a particular impact on our ability to do our job were the electronic data management kneeboard, the Blue Force Tracker, and the forward looking infrared (FLIR) system.

The electronic data management (EDM) system is a computerized moving map presented on a kneeboard display.

The EDM shows route-of-flight and terrain information, along with icons representing any aircraft or ground vehicle equipped with the Blue Force Tracker (BFT), a transponder-like system that helps us account for friendly forces.

The AN/AAQ-22 FLIR system detects and displays minute differences in thermal energy, allowing us to fly safely at night and in times of reduced visibility (remember that smog?), as well as giving us the confidence that we can spot potential threats and our gunship escort from kilometers away.

Nights with no moon or starlight became truly "zero-illum" conditions once we got outside of the city environs.

In these conditions our night vision goggles were, for all intents and purposes, useless.

Considering the topography common in that part of the world, we relied heavily on the combination of EDM, BFT and FLIR to get us where we need to go without merging with the rising terrain.

The EDM and FLIR were a good combination to use together during the daytime as well, especially when trying to find remote landing sites around Bagram when the visibility was limited by smog or blowing sand.

But it was at night that these technologies really came into heavy use.

One mission in particular has stayed with me.

A Marine was in respiratory distress at an aid station in Jalalabad.

He had been intubated, was on a respirator, and needed to get to the larger hospital in Bagram fast.

As it turned out, this mission came on one of those "zero-illum" nights.

When our command worked through the risk assessment, their first question was, "Does the aircraft have a FLIR?"

As it happened, this aircraft did have a FLIR on board, and we were allowed to proceed with the mission.

If it hadn't been a FLIR bird they probably wouldn't have allowed us to go.

As we left Bagram behind, the intense darkness of the night set in.

In the States, it is nearly impossible to find a place utterly devoid of light — there is at least an overhead light on the side of the road.

String a few of those roadside lights together and you can have a rough idea of your situational awareness, but this night was so dark that even our NVIS-9 goggles showed us featureless black instead of the terrain rising all around us.

However, the FLIR, used in concert with the EDM's moving map, gave us a complete picture of the mountainous terrain and allowed us to navigate the 150 nautical mile round trip, including a notorious mountain pass called the "Devil's Crack," with relative ease.

In our Black Hawk, the left-seat pilot has responsibility for the advanced avionics and systems that help keep us safe in such challenging situations. He wears the EDM kneeboard, configures the radios and operates the FLIR. On this particular mission, I was flying left seat and acting as instructor pilot to a lower-time pilot in the right seat.

Using the FLIR and EDM kneeboard, I was able to free him from most navigation duties, allowing him to keep us right side up by concentrating on the NVG's integral heads-up display, confident that nothing bad was going to sneak up on us.

We landed in Jalalabad, picked up the injured Marine and flew back to Bagram without incident.

To my knowledge he recovered fully.

Had it not been for the FLIR and EDM, he probably would have had to wait until morning to get the treatment he needed.

The technological changes incorporated into the aircraft between our tours in Afghanistan have functioned as a force multiplier.

The AN/AAQ-22 FLIR, EDM and Blue Force Tracker allowed us to do our jobs in situations and conditions during our second tour that would have kept us grounded during our first.

To be fair, however, while technology allows us to be of use during a wider variety of conditions than before, it is the people that make things happen.

The pilots, crew chief and flight medic all have to work together as a team if we are to save the lives of Soldiers, Marines and Airmen under our care.

And we do.

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CW2 Gregory J. Lund is an Army aviator with over 15 years of experience and is an instructor pilot with the 1042nd Medical Company (Air Ambulance), Army National Guard, Salem, Ore.